

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: 2000009292 A

(43) Date of publication of application: 11.01.00

(51) Int. Cl

F16M 5/00

F16M 1/08

(21) Application number: 10177374

(22) Date of filing: 24.06.98

(71) Applicant: MITSUBISHI HEAVY IND LTD

(72) Inventor:
TACHIBANA MAKOTO
KAMEDA ICHIRO
TAKESHITA AKIRA
KOISO YUKIO

(54) COMMON FRAME FOR INSTALLING APPARATUS

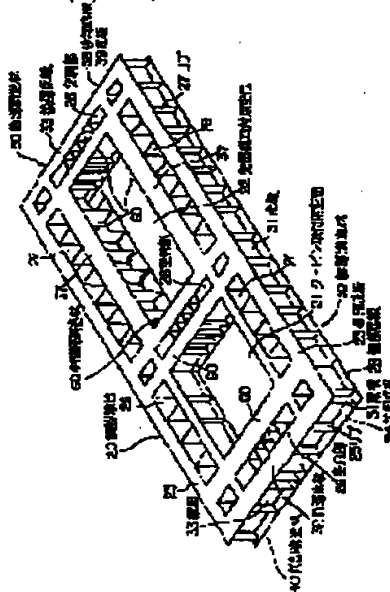
(57) Abstract:

PROBLEM TO BE SOLVED: To have high rigidity, compactly arrange wires, and have superior heat radiation performances by forming a common frame of H-shaped steels and steel plates and by providing spaces for attaching a device in the inside and cavities in such a state as vertically penetrating from a floor plate to the bottom plate.

SOLUTION: A steel frame 20 is so constituted that major strength materials forming a skeleton of a frame such as a side structural material 30, a front structural material 40, a rear structural material 50, and an intermediate structural material of H-shaped steels and vertical reinforcing ribs 25, 27 made of steel plates are welded to the structural materials formed of the H-shaped steels. The welded parts are few and a lot of cavities 26 are formed so that no parts are hard to be welded and welding manhour is drastically reduced. A lot of the cavities 26 are formed between respective structural materials so that pipes and electric wires can be lead through the cavities 26, prevented from being exposed to the outside,

eliminated any necessity of being drawn around the outside of the frame, thus facilitating the piping and wiring works.

COPYRIGHT: (C)2000,JPO



PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-009292

(43)Date of publication of application : 11.01.2000

(51)Int.Cl.

F16M 5/00

F16M 1/08

(21)Application number : 10-177374

(71)Applicant : MITSUBISHI HEAVY IND LTD

(22)Date of filing : 24.06.1998

(72)Inventor : TACHIBANA MAKOTO

KAMEDA ICHIRO

TAKESHITA AKIRA

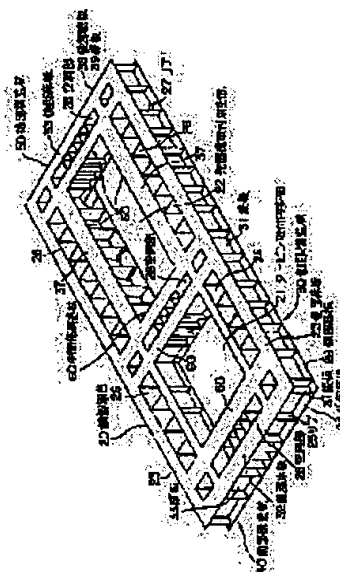
KOISO YUKIO

(54) COMMON FRAME FOR INSTALLING APPARATUS

(57)Abstract:

PROBLEM TO BE SOLVED: To have high rigidity, compactly arrange wires, and have superior heat radiation performances by forming a common frame of H-shaped steels and steel plates and by providing spaces for attaching a device in the inside and cavities in such a state as vertically penetrating from a floor plate to the bottom plate.

SOLUTION: A steel frame 20 is so constituted that major strength materials forming a skeleton of a frame such as a side structural material 30, a front structural material 40, a rear structural material 50, and an intermediate structural material of H-shaped steels and vertical reinforcing ribs 25, 27 made of steel plates, are welded to the structural materials formed of the H-shaped steels. The welded parts are few and a lot of cavities 26 are formed so that no parts are hard to be welded and welding manhour is drastically reduced. A lot of the cavities 26 are formed between respective structural materials so that pipes and electric wires can be lead through the cavities 26, prevented from being exposed to the outside, eliminated any necessity of being drawn around the outside of the frame, thus facilitating the piping and wiring works.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to the structure of the common stand in the installation equipment of the device which comes to fix two or more devices, such as a steam turbine generator, a Diesel engine generator, and a multistage compressor, on one common stand.

[0002]

[Problem(s) to be Solved by the Invention] Drawing 3 is the perspective diagram showing the installation structure of the steam turbine generator in plant.

[0003] In drawing 3, 1 is the axis of rotation with which a turbine and 2 link a generator directly and 3 links this turbine 1 and a generator 2 directly, and constitutes a steam turbine generator 13 by these. 20 is the steel stand which constitutes a common stand, and the above-mentioned steam turbine generator 13 is being fixed on this steel stand 20, after predetermined adjustment of alignment adjustment etc. is made. the steel stand 20 with which 23' is the basic stand formed in the building (illustration ellipsis) of plant, and the above-mentioned steam turbine generator 13 was fixed -- this basic stand 23 -- vibrationproofing and earthquake-proof support are made through 'the spring mechanism 10 and the damping damper 30' of plurality [top]

[0004] One conventional example of the above-mentioned common stand 20 is shown in drawing 5 - drawing 6, drawing 5 is a plane view view (B-B view view of drawing 6), and drawing 6 is the A-A view view of drawing 5. In drawing 5 - drawing 6, the space for turbine attachment which is a space for 21 attaching a turbine 1, and 22 are space for generator attachment which is the spaces for attaching a generator 2.

[0005] For a floor plate and 72, as for a front board and 74, a rear-face board, and 75 and 76 are [71 / a bottom plate and 73] side boards, and this common stand 20 is formed in box-like by constituting each above-mentioned board from a steel plate, bending and welding this steel plate to a direct or predetermined configuration as it is, forming suitably two or more ribs 77 made from a steel plate as an on-the-strength member in the interior, and welding to each above-mentioned board.

[0006] However, there are the following troubles in the conventional common stand 20 shown in drawing 5 - drawing 6. That is, since the number of steel plates increases in order to form in a box-like object and to hold rigidity by bending with many steel plates or welding as it is, a welding part increases and there is a part with difficult welding for a box-like object. For this reason, the man day of welding operation increases and welding operation nature is a low.

[0007] Moreover, since it is a box-like object, in order to secure piping for devices, and the space of wiring, the width of face of the common stand 20 becomes large, and it is not compact. Since it is furthermore a box-like object, filled [the interior / tend] with heat, from a bird clapper, thermolysis nature is low and there is a possibility of causing overheating of an equipment.

[0008] The purpose of this invention is to have high rigidity, make piping, wiring, etc. compactly, and offer profit and the common stand for installations of the device which thermolysis nature is still better and can avoid overheating of an equipment while the number of steel materials excels [part / welding] in welding operation nature few it is few and lightweight.

[0009]

[Means for Solving the Problem] The 1st means which this invention solves the above troubles and is made into the summary In the common stand for installations of the device which comes to fix two or more devices, such as a turbine and a generator, to one stand the above-mentioned common stand While welding two or more H beams and steel plates and being formed, from a floor plate, a bottom plate is covered, and the cavernous section for inserting in the space for attaching the above-mentioned device in the interior and piping, wiring, etc. penetrates up and down, is prepared, and is in a bird clapper.

[0010] The 2nd means comes to constitute the flank structure material which the above-mentioned common stand becomes from the vertical board which combines a flank floor plate, a flank bottom plate, and both sides up and down at least, the anterior part structure material which consists of a vertical board which combines an anterior part floor plate, an anterior part bottom plate, and both sides up and down, and the posterior part structure material which consists of a vertical board which combines a posterior part floor plate, a posterior part bottom plate, and both sides up and down from an above-mentioned H beam in the 1st means of the above.

[0011] the steel stand which consists of the conventional steel plate welding object since the common stand has structure reinforced with the rib which constitutes the flank structure material, the anterior-part structure material, and the posterior part

structure material which make an outline at least from a rigid large H beam, and becomes this from a steel plate according to the above-mentioned means -- comparing -- the few number of structural members -- ***** -- it has high rigidity and it becomes the stand with which the stand weight was reduced

[0012] Therefore, since the cavernous section of many vertical directions can be formed holding rigidity while there are also few welding parts and they end, there is no part where welding is difficult and a welding operation man day is sharply reduced compared with the conventional thing.

[0013] Moreover, since much vertical direction cavernous sections are formed between the structure material which consists of an H beam, piping and wiring can be performed through this cavernous section. By this, like the conventional thing, while being able to enforce ***** , piping, and wiring easily, in order that there may be no exposure to the exterior of piping and wiring, a fine sight also improves drawing piping and wiring about for the outside of a common stand with a compact.

[0014] Furthermore, since there is no closed space and it is wide opened outside while much cavernous sections are formed in a common stand, thermolysis nature becomes good, the interior of a stand is filled with heat, and overheating of an equipment or wiring is not caused.

[0015]

[Embodiments of the Invention] With reference to drawing 1 - drawing 4 , it explains to a detail per operation gestalt of this invention below. Drawing 3 is the outline perspective diagram showing the installation state of a turbine power plant where this invention is applied.

[0016] In drawing 3 , 1 is the axis of rotation with which a turbine and 2 link a generator directly and 3 links this turbine 1 and a generator 2 directly, and constitutes a steam turbine generator 13 by these. 20 is the steel stand which constitutes a common stand, and on this steel stand 20, after adjustment of alignment adjustment etc. predetermined in the above-mentioned steam turbine generator 13 is made, it is being fixed. 23' is a basic stand and is prepared in the building of plant -- having -- **** -- this basic stand 23 -- 'the spring mechanism 10 and the damping damper 30' of plurality [stand / steel / 20 / with which the above-mentioned steam turbine generator 13 was fixed upwards] -- minding -- vibrationproofing -- earthquake-proof support is carried out

[0017] Drawing 4 is the outline perspective diagram showing the installation state of a diesel power plant where this invention is applied, and in drawing 4 , 4 is directly linked with a generator 2 through the axis of rotation 3 with a Diesel engine, and constitutes Diesel engine generator 14. After this Diesel engine generator 14 performs predetermined adjustment, it is being fixed to the steel stand 20. Other composition is the same as that of the turbine power plant shown in drawing 3 , and the same member shows this with the same sign.

[0018] this invention relates to improvement of the common stand 20, i.e., a steel stand, shown in drawing 3 - drawing 4 . The appearance perspective diagram of the steel stand for turbine power plants which drawing 1 requires for the operation gestalt of this invention, and drawing 2 are the anterior part perspective diagrams of the above-mentioned steel stand.

[0019] In drawing 1 , the space for turbine attachment for 21 attaching the above-mentioned turbine 1 and 22 are the space for generator attachment for attaching the above-mentioned generator 2. For 32, as for a flank floor plate and 33, an anterior part floor plate and 23 are [a posterior part floor plate and 37] pars intermedia floor plates, and, as for these upper surfaces, machining is given flat and smooth after welding this steel stand 20.

[0020] 28 is a flank bottom plate, 31 is the vertical board of a flank, and the above-mentioned flank floor plate 23, the flank bottom plate 28, and a vertical board 31 consist of an H beam of one, are arranged at the both sides of the steel stand 20, are continued and installed in the back end section from the front end section (you may also inherit by welding on the way), and constitute the flank structure material 30.

[0021] 24 is an anterior part bottom plate, 33 is the vertical board of anterior part, the above-mentioned anterior part floor plate 23, the anterior part bottom plate 24, and a vertical board 25 constitute the anterior part structure material 40 which consists of an H beam of one, and are constructed between the front end sections of the flank structure material 30 and 30 of the above-mentioned both sides, and the ends side is welded to them by the above-mentioned flank structure material 30 and 30.

[0022] 50 is posterior part structure material, it consists of H beams of one which consist of the above-mentioned posterior part floor plate 33, a posterior part bottom plate 38, and a hind vertical board 39, and the ends side is welded to it by the above-mentioned flank structure material 30 and 30.

[0023] 60 is pars intermedia structure material, is formed by the H beam which makes the above-mentioned pars intermedia floor plate 37 upper surface material, and is suitably welded to the above-mentioned flank structure material 30 and 30, the anterior part structure material 40, or the posterior part structure material 50.

[0024] And to each above-mentioned structure material 30, 40, 50, and 60, it welds, two or more ribs 27 which consist of a steel plate, and 25 grades fix suitably, lengthwise, and necessary rigidity is held. Moreover, two or more cavernous sections 26 penetrated up and down are prepared for a proper place, and are enabling insertion of piping, wiring, etc. of this cavernous section 26 at the above-mentioned steel stand 20.

[0025] The steel stand 20 constituted as mentioned above forms the main on-the-strength members which make the skeleton of a stand called the flank structure material 30, 30 anterior part structures material 40, the posterior part structure material 50, and the pars intermedia structure material 60 by the H beam. the steel stand which consists of the conventional steel plate welding object shown in drawing 5 - drawing 6 since the stiffening rib 25 lengthwise [made from a steel plate] and 27 grades are welded to the structure material which consists of this H beam and it is constituted -- comparing -- the few number of structural members -- ***** -- it has high rigidity and the weight of a stand is reduced Moreover, since much cavernous

sections 26 can be formed while a welding part decreases with the above, there is no part where welding is difficult and a welding operation man day is reduced sharply.

[0026] Moreover, since much cavernous sections 26 are formed between each above-mentioned structure material 30, 40, 50, and 60, piping and electric wiring can be made through this cavernous section 26, there is no exposure to the exterior and there is no need of lengthening the outside of a stand about like the conventional thing, while being able to enforce piping and wiring easily, in order that there may be no exposure to the exterior of piping and wiring as mentioned above, a fine sight also improves with a compact.

[0027] Furthermore, since it is wide opened outside, without closing the interior while the cavernous section 26 of a large number penetrated up and down as mentioned above is formed, thermolysis nature is good, the interior of a stand 20 is filled with heat, and overheating of an equipment or wiring is not caused.

[0028] In addition, with the above-mentioned operation gestalt, although the flank structure material 30, 30 anterior part structures material 40, the posterior part structure material 50, and the pars intermedia structure material 60 were constituted from an H beam, other members may constitute the flank structure material 30 and 30, the anterior part structure material 40, and the posterior part structure material 50 which make an outline at least from a steel plate that what is necessary is just to constitute from an H beam.

[0029]

[Effect of the Invention] the stand which consists of the conventional steel plate welding object since this invention is constituted as mentioned above, and the common stand has composition reinforced with the reinforcement member which constitutes the structure material of the outline section from an H beam at least, and becomes this from a steel plate according to this invention -- comparing -- the few number of structural members -- ***** -- it can have high rigidity and a stand weight can be reduced Therefore, since much cavernous sections can be formed while there are few welding parts and they end, there is no part where welding is difficult and a welding operation man day can be sharply reduced compared with the conventional thing.

[0030] Moreover, since piping and wiring can be performed through the vertical direction cavernous section of a large

[Date of registration]□ for application]□her than the examiner's decision of rejection or application converted□ng and easily, without lengthening the outside of a stand about like the conventional thing and being able to reduce piping and a wiring man day, in order that there may be no exposure to the exterior of piping and wiring, a fine sight also improves with a compact.

[0031] Furthermore, while much cavernous sections are formed in a common bed, in order to be opened wide outside and for there to be nothing in synizesis space, thermolysis nature becomes good, the interior of a stand is filled with heat, and the space in a rack does not cause overheating of an equipment or wiring.

[Translation done.]

(19) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号

特開2000-9292

(P2000-9292A)

(43) 公開日 平成12年1月11日 (2000.1.11)

(51) Int.Cl.⁷

識別記号

F I

テーマコード* (参考)

F 1 6 M 5/00

F 1 6 M 5/00

A

B

1/08

1/08

審査請求 未請求 請求項の数 2 O L (全 5 頁)

(21) 出願番号

特願平10-177374

(22) 出願日

平成10年6月24日 (1998.6.24)

(71) 出願人 000006208

三菱重工業株式会社

東京都千代田区丸の内二丁目5番1号

(72) 発明者 橋 誠

兵庫県高砂市荒井町新浜2丁目1番1号

三菱重工業株式会社高砂製作所内

(72) 発明者 亀田 一郎

兵庫県高砂市荒井町新浜2丁目1番1号

三菱重工業株式会社高砂製作所内

(74) 代理人 100069246

弁理士 石川 新 (外1名)

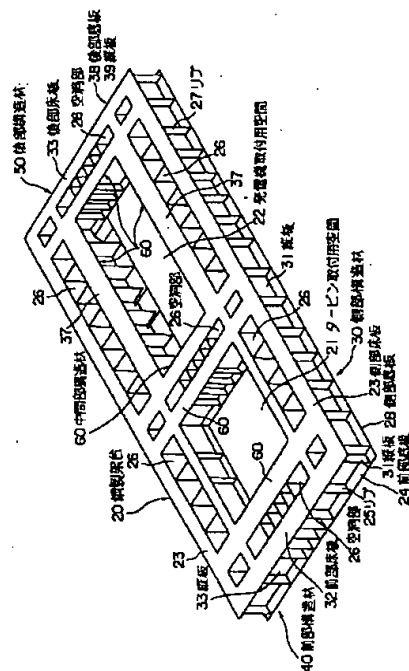
最終頁に続く

(54) 【発明の名称】 機器の据付用共通架台

(57) 【要約】

【課題】 鋼材の数が少なく軽量で、かつ溶接箇所が少なく溶接作業性に優れるとともに、高い剛性を有し、配管、配線等をコンパクトになし得、さらには放熱性が良好で機器類の過熱を回避できる機器の据付用共通架台を提供する。

【解決手段】 タービン、発電機等の複数の機器を1個の架台に固定してなる機器の据付用共通架台において、上記共通架台は、複数のH形鋼と鋼板とを溶接して形成されるとともに、その内部に上記機器を取付けるための空間及び配管、配線等を挿通するための空洞部が床板から底板に亘って上下に貫通して設けられてなる。



【特許請求の範囲】

【請求項1】 タービン、発電機等の複数の機器を1個の架台に固定してなる機器の据付用共通架台において、上記共通架台は、複数のH形鋼と鋼板とを溶接して形成されるとともに、その内部に上記機器を取付けるための空間及び配管、配線等を挿通するための空洞部が床板から底板に亘って上下に貫通して設けられてなることを特徴とする機器の据付用共通架台。

【請求項2】 上記共通架台は、少なくとも、側部床板と側部底板と双方を上下に結合する縦板とよりなる側部構造材、前部床板と前部底板と双方を上下に結合する縦板とよりなる前部構造材、及び、後部床板と後部底板と双方を上下に結合する縦板とよりなる後部構造材を、上記H形鋼にて構成してなる請求項1記載の機器の据付用共通架台。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明はタービン発電機、ディーゼル発電機、多段圧縮機等の複数の機器を1個の共通架台上に固定してなる機器の据付装置における共通架台の構造に関する。

【0002】

【発明が解決しようとする課題】図3は発電所におけるタービン発電機の据付構造を示す斜視図である。

【0003】図3において、1はタービン、2は発電機、3は同タービン1と発電機2とを直結する回転軸で、これらによりタービン発電機13を構成する。20は共通架台を構成する鋼製架台で、上記タービン発電機13はアライメント調整等の所定の調整がなされた後、同鋼製架台20上に固定されている。23'は発電所の建屋(図示省略)内に設けられた基礎架台であり、上記タービン発電機13が固定された鋼製架台20は同基礎架台23'上に複数のばね機構10及び制振ダンパ30'を介して防振、耐震支持がなされている。

【0004】図5～図6には上記共通架台20の従来の1例が示されており、図5は平面視図(図6のB-B矢視図)、図6は図5のA-A矢視図である。図5～図6において、21はタービン1を取付けるためのスペースであるタービン取付用空間、22は発電機2を取付けるためのスペースである発電機取付用空間である。

【0005】71は床板、72は底板、73は前面板、74は後面板、75、76は側面板であり、この共通架台20は、上記各板を鋼板で構成し、この鋼板をそのまま直接あるいは所定の形状に折り曲げて溶接し、内部に強度部材としての複数の鋼板製リブ77を適宜設けて上記各板に溶接することによって箱状に形成されている。

【0006】しかしながら図5～図6に示す従来の共通架台20には次のような問題点がある。即ち多数の鋼板と折り曲げあるいはそのまま溶接することにより箱状体

に形成しており、また剛性を保持するため鋼板の数が多くなることから、溶接箇所が多くなり、かつ箱状体のため溶接困難な部位がある。このため溶接作業の工数が多くなり、溶接作業性が低い。

【0007】また、箱状体であるため、機器用の配管や配線のスペースを確保するため、共通架台20の幅が多くなり、コンパクトさに欠ける。さらに箱状体であるため、内部に熱が籠もり易くなることから、放熱性が低く、機器類の過熱を招く恐れがある。

【0008】本発明の目的は、鋼材の数が少なく軽量で、かつ溶接箇所が少なく溶接作業性に優れるとともに、高い剛性を有し、配管、配線等をコンパクトにし得、さらには放熱性が良好で機器類の過熱を回避できる機器の据付用共通架台を提供することにある。

【0009】

【課題を解決するための手段】本発明は上記のような問題点を解決するもので、その要旨とする第1の手段は、タービン、発電機等の複数の機器を1個の架台に固定してなる機器の据付用共通架台において、上記共通架台は、複数のH形鋼と鋼板とを溶接して形成されるとともに、その内部に上記機器を取付けるための空間及び配管、配線等を挿通するための空洞部が床板から底板に亘って上下に貫通して設けられてなることにある。

【0010】第2の手段は、上記第1の手段において、上記共通架台は、少なくとも側部床板と側部底板と双方を上下に結合する縦板とよりなる側部構造材、前部床板と前部底板と双方を上下に結合する縦板とよりなる前部構造材、及び、後部床板と後部底板と双方を上下に結合する縦板とよりなる後部構造材を、上記H形鋼にて構成してなる。

【0011】上記手段によれば、共通架台は、少なくとも外郭をなす側部構造材、前部構造材及び後部構造材を剛性の大きいH形鋼で構成し、これに鋼板からなるリブ等で補強した構造となっているので、従来の鋼板溶接体からなる鋼製架台に較べて少ない構造部材数で以って高い剛性を備えて、架台重量が低減された架台となる。

【0012】従って、溶接箇所も少なく済むとともに、剛性を保持しつつ多数の上下方向の空洞部を形成できるので、溶接困難な箇所が無く、従来のものに較べて溶接作業工数が大幅に低減される。

【0013】また、H形鋼からなる構造材の間に多数の上下方向空洞部が形成されるので、配管や配線をこの空洞部を通して行なうことができる。これによって、従来のもののよう、配管、配線を共通架台の外側に引き廻すことを要さず、配管、配線作業を容易に施行できるとともに、配管、配線の外部への露出が無いためコンパクトで美観も向上する。

【0014】さらに、共通架台に多数の空洞部が形成されるとともに、閉鎖された空間が無く外部に開放されているので放熱性が良好となり、架台の内部に熱が籠もつ

て機器類や配線の過熱を引き起こすことも無い。

【0015】

【発明の実施の形態】以下図1～図4を参照して本発明の実施形態につき詳細に説明する。図3は本発明が適用されるタービン発電装置の据付状態を示す概略斜視図である。

【0016】図3において、1はタービン、2は発電機、3は同タービン1と発電機2とを直結する回転軸で、これらによりタービン発電機13を構成する。20は共通架台を構成する鋼製架台で、同鋼製架台20上には上記タービン発電機13がアライメント調整等の所定の調整がなされた後固定されている。23'は基礎架台であり、発電所の建屋に設けられており、同基礎架台23'上に、上記タービン発電機13が固定された鋼製架台20が、複数のばね機構10及び制振ダンパ30'を介して防振、耐震支持されている。

【0017】図4は本発明が適用されるディーゼル発電装置の据付状態を示す概略斜視図であり、図4において、4はディーゼル機関で回転軸3を介して発電機2に直結され、ディーゼル発電機14を構成する。同ディーゼル発電機14は所定の調整を行なった後鋼製架台20に固定されている。その他の構成は図3に示すタービン発電装置と同様であり、これを同一の部材は同一の符号にて示す。

【0018】本発明は図3～図4に示す共通架台即ち鋼製架台20の改良に係るものである。図1は本発明の実施形態に係るタービン発電装置用鋼製架台の外観斜視図、図2は上記鋼製架台の前部斜視図である。

【0019】図1において、21は上記タービン1を取付けるためのタービン取付用空間、22は上記発電機2を取付けるための発電機取付用空間である。32は前部床板、23は側部床板、33は後部床板、37は中間部床板であり、これらの上面はこの鋼製架台20を溶接後平滑に機械仕上げが施されている。

【0020】28は側部底板、31は側部の縦板で、上記側部床板23と側部底板28と縦板31とは一体のH形鋼からなり、鋼製架台20の両側に配置され、前端部から後端部に亘って延設され（途中で溶接にて継いでもよい）、側部構造材30を構成している。

【0021】24は前部底板、33は前部の縦板で、上記前部床板23と前部底板24と縦板25とは一体のH形鋼からなる前部構造材40を構成し、上記両側の側部構造材30、30の前端部間に架設され、両端面を上記側部構造材30、30に溶接されている。

【0022】50は後部構造材で、上記後部床板33と後部底板38と後部の縦板39とよりなる一体のH形鋼で構成され、両端面を上記側部構造材30、30に溶接されている。

【0023】60は中間部構造材であり、上記中間部床板37を上面材とするH形鋼で形成されて、上記側部構

造材30、30あるいは前部構造材40あるいは後部構造材50に適宜溶接されている。

【0024】そして上記各構造材30、40、50、60には縦方向に鋼板からなる複数のリブ27、25等が適宜溶接、固着され、所要の剛性を保持している。また上記鋼製架台20には、上下に貫通する複数の空洞部26が適所に設けられ、同空洞部26を配管、配線等が挿通可能としている。

【0025】上記のように構成された鋼製架台20は、側部構造材30、30前部構造材40、後部構造材50及び中間部構造材60という架台の骨格をなす主要な強度部材をH形鋼で形成し、このH形鋼からなる構造材に鋼板製の縦方向の補強用リブ25、27等を溶接して構成されているので、図5～図6に示される従来の鋼板溶接体からなる鋼製架台に較べて少ない構造部材数で高い剛性を備え、架台の重量が低減される。また、上記に伴ない溶接箇所が少なくなるとともに、多数の空洞部26を形成できるので、溶接困難な箇所が無く、溶接作業工数が大幅に低減される。

【0026】また、上記各構造材30、40、50、60の間に多数の空洞部26が形成されるので、配管や電気配線をこの空洞部26を通してなすことができて外部へ露出が無く、従来のもののように架台の外側を引き廻す必要が無いので、配管、配線作業を容易に施行できるとともに、上記のように配管、配線の外部への露出が無いのでコンパクトで美観も向上する。

【0027】さらに、上記のように上下に貫通する多数の空洞部26が形成されるとともに、内部が閉鎖されずに外側に開放されているので、放熱性が良好であり、架台20の内部に熱が籠もって機器類や配線の過熱を招くことも無い。

【0028】尚、上記実施形態では、側部構造材30、30前部構造材40、後部構造材50及び中間部構造材60をH形鋼で構成したが、少なくとも外郭をなす側部構造材30、30、前部構造材40及び後部構造材50をH形鋼で構成すればよく、他の部材は鋼板で構成してもよい。

【0029】

【発明の効果】本発明は以上のように構成されており、本発明によれば、共通架台は、その少なくとも外郭部の構造材をH形鋼で構成し、これに鋼板からなる補強部材にて補強した構成となっているので、従来の鋼板溶接体からなる架台に較べて少ない構造部材数で高い剛性を備え架台重量を低減することができる。従って、溶接箇所が少なく済むとともに、多数の空洞部が形成できるので、溶接困難な箇所が無く、従来のものに較べて溶接作業工数を大幅に低減することができる。

【0030】また、H形鋼からなる構造材の間に形成される多数の上下方向空洞部を通して配管、配線を行なうことができるので、配管、配線を従来のもののように架

5

台の外側を引き廻すことなく容易に施行でき、配管、配線作業工数が低減できるとともに、配管、配線の外部への露出が無いためコンパクトで、美観も向上する。

【0031】さらに、共通台板に多数の空洞部が形成されるとともに、架内の空間は外部に開放されて閉鎖空間で無いため放熱性が良好となり、架台の内部に熱が籠もって機器類や配線の過熱を引き起こすことが無い。

【図面の簡単な説明】

【図1】本発明の実施形態に係る鋼製架台の外観斜視図。

【図2】上記実施形態における鋼製架台の前部斜視図。

【図3】本発明が適用されるタービン発電装置の据付状態を示す概略斜視図。

【図4】本発明が適用されるディーゼル発電装置の据付状態を示す概略斜視図。

【図5】従来の鋼板溶接体からなる鋼製架台の平面視図

6

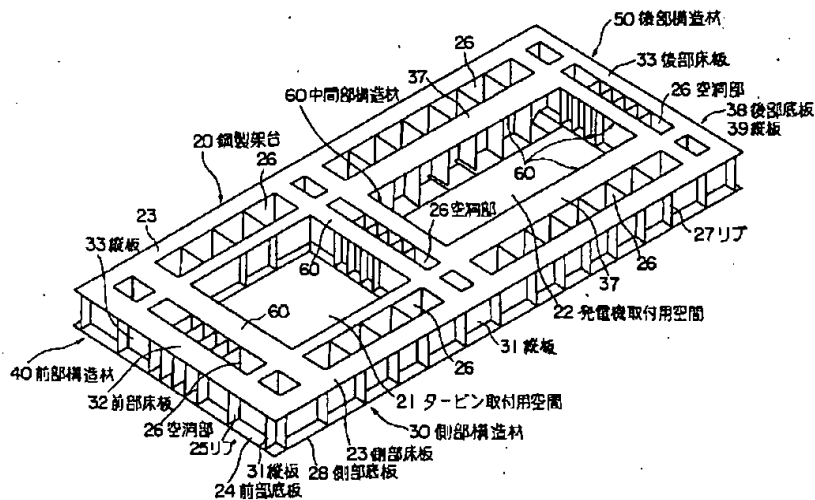
(図6のB-B矢視図)。

【図6】図5のA-A矢視図。

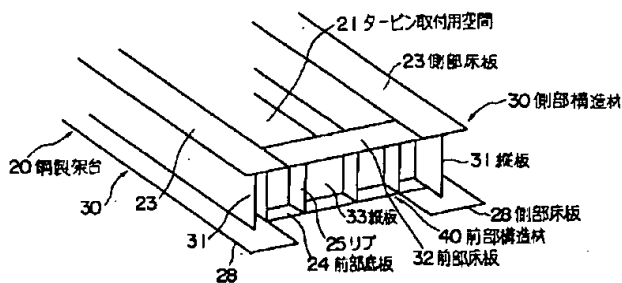
【符号の説明】

1	タービン
2	発電機
4	ディーゼル機関
10	ばね機構
20	鋼製架台
21	タービン取付用空間
22	発電機取付用空間
25, 27	リブ
26	空洞部
30	側部構造材
40	前部構造材
50	後部構造材
60	中間部構造材

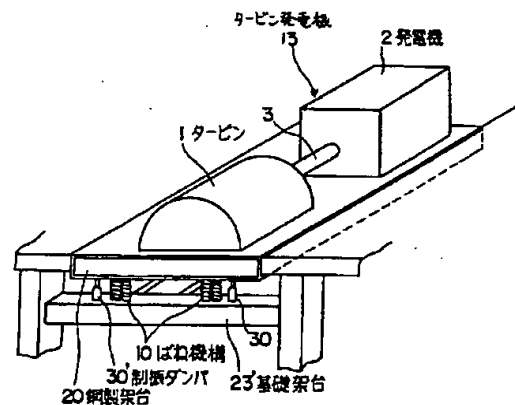
【図1】



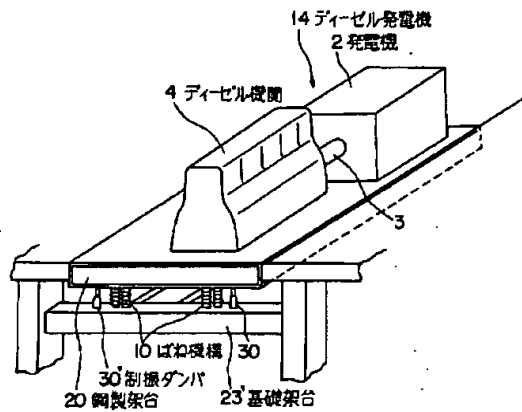
【図2】



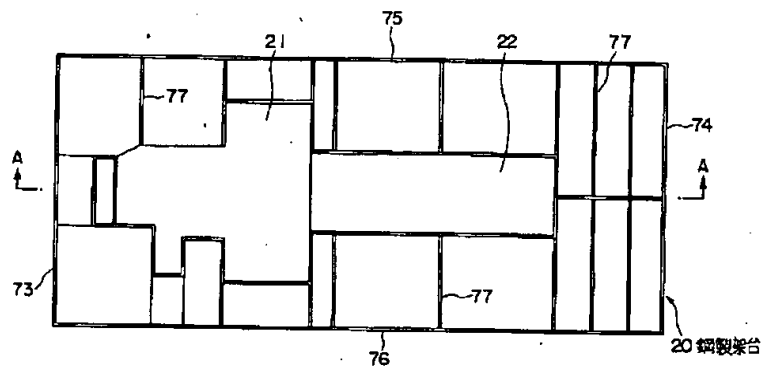
【図3】



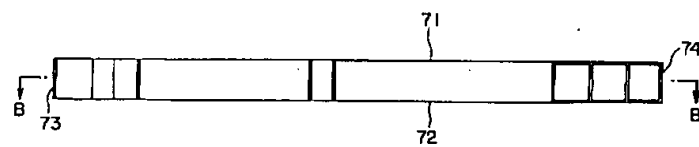
【図4】



【図5】



【図6】



フロントページの続き

(72)発明者 竹下 明
兵庫県高砂市荒井町新浜2丁目1番1号
三菱重工業株式会社高砂製作所内

(72)発明者 小磯 幸雄
東京都千代田区丸の内二丁目5番1号 三
菱重工業株式会社内